CASE STUDY

Resolution of Otitis Media & Avoidance of Tympanostomy Tubes in a 16-Month Old with Birth Trauma Following Subluxation Based Care: A Case Study and Selective Review of Literature

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Abstract

Objective: To describe the chiropractic management of a pediatric patient with significant birth trauma suffering from recurrent otitis media and vertebral subluxations.

Clinical Features: A 16-month old male with a history of recurrent ear infections presented to the office with his mother for chiropractic evaluation and possible care. The ear infections began at the age of fourteen months and since then he has had four medically diagnosed bilateral ear infections all treated with antibiotic therapy without resolution. The mother sought out chiropractic care in order to avoid the insertion of tympanostomy tubes recommended by the pediatrician.

Interventions and Outcomes: The patient began care with bilateral ear infections. Care began with a chiropractic examination, utilizing paraspinal thermal scans, motion palpation, and static palpation. Vertebral subluxations were identified and cared for utilizing the Activator instrument and sustained contacts. Cranial adjusting, sinus work, and soft tissue effleurage of SCM’s were also utilized. The patient showed immediate decrease in symptomatology in the first week of care and during the fourth week of care had an appointment with the pediatrician revealing bilateral ear infections to be resolved. The patient continues under chiropractic care and has not had any recurrence of ear infections.

Conclusions: The reduction of vertebral subluxation through chiropractic care resulted in decreased symptomatology associated with otitis media and the patient was able to avoid the insertion of tympanostomy tubes.

Key Indexing Terms: Chiropractic, subluxation, otitis media, ear infection, pediatrics, tympanostomy tubes, adjustment, Activator, thermography

Introduction

In the first three years of life, more than two thirds of children are medically diagnosed with one or more episodes of acute otitis media (AOM). Of those medically diagnosed with AOM, 33% have had three or more episodes. Otitis media (OM), has significant effects on children other than physical symptomatic manifestations including decreased attentiveness, irritability, sleep disturbances, and behavioral changes. As a result of the child’s physical symptoms, as well as the aforementioned mental and behavioral changes, OM is a common cause for significant school absences in children of elementary age. A complication of AOM is possible hearing loss which interferes with the proper development of a child’s language comprehension, development of speech, and social interaction, and may be responsible for some learning disabilities in children with chronic OM.

Otitis media is not a primary disease, it is a secondary disease to other childhood illnesses, such as sinusitis, common cold, and pharyngitis. The most common pathogens associated

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with OM with effusion are Haemophilus influenza, Streptococcus pneumonia, and Moraxella catarrhals. One definition of otitis media describes it as inflammation of the middle ear without reference to causation or etiology; subcategories including OM with or without effusion, chronic OM, serous OM, bacterial OM, and acute OM. The exact definition of OM varies between health practitioners, but common signs and symptoms attributed to the diagnosis of OM are ear pain, fever, middle ear inflammation, red eardrum, bulging of the tympanic membrane, swollen lymph nodes, and OM with effusion with fluid in the middle ear without infection.

Traditional medical treatment of AOM has been controversial in more recent years and typically begins with antibiotic therapy - the focus directed on the eradication of bacteria in the middle ear. While there are many sources for recommendations of care for OM, the American Academy of Pediatrics/American Academy of Family Practice and Centers for Disease Control and Prevention guidelines recommend the “wait and see” approach. This approach being based on the belief that 70-80% of AOM cases self-resolve.

It has also been a discussion that there is no compelling evidence that children who are given antibiotics for treatment have shorter duration of symptoms, fewer recurrences of OM, or better long term outcomes. One major problem with the routine prescription and first line of defense for OM being antibiotic therapy is that over half or more of the diagnosed OM cases are not caused by bacteria. The second major problem is that widespread antibiotic use leads to an increase in bacterial resistance and subsequently leaves the child immuno-compromised, further leading to susceptibility to and at increased risk of recurrent infections.

For a child who presents with recurring ear infections or who has chronic otitis media, the next protocol for treatment is the insertion of tympanostomy tubes in order to prevent recurrence, mastoiditis, and hearing loss. Tympanostomy tubal insertion allows for the fluid in the middle ear to drain as well as permitting ventilation. Due to a lack of consensus of which children who present with ear infections would benefit by having this procedure, it is estimated that 27-32% of tympanostomies performed are unnecessary. Even with tubal insertion, it is found that almost 98% of the children have a recurrence of effusion within two months and 25% have total hearing loss within 7-10 years.

There are also multiple risks for the patient undergoing the surgery including cholesteatoma, persistent tympanic membrane perforation, tympanosclerosis, post-surgical infection, psychological trauma, as well as risks associated with anesthesia and sedation. A study conducted by Rosen of 5400 children came to the conclusion that antibiotic therapy and the insertion of tympanostomy tubes are of no value as initial treatment nor as a primary treatment procedure for otitis media.

Of the cases that fail to resolve after medical treatment, they commonly look into alternative treatments, chiropractic being the most common form of “alternative medicine” for children with ears, nose and throat conditions. Children presenting to the chiropractor are examined for vertebral subluxations, defined by the Association of Chiropractic Colleges as: “A complex or functional and/or structural and/or pathological articual changes that compromise neural integrity and may influence the organ system function and general health. A subluxation is evaluated, diagnosed, and managed through the use of chiropractic procedures based on the best available rationale and empirical evidence.”

Due to the key pathogenesis of otitis media being best explained by eustachian tube dysfunction along with bacterial/viral infection and other predisposing factors, the chiropractic treatment is focused on normalizing spinal biomechanics, eustachian tube and immune system function. Abnormal function of the eustachian tube traps fluid in the middle ear and leads to an inflammatory response. When normalization of the eustachian tube is achieved it allows for protection of the middle ear from nasopharyngeal fluid, natural drainage of fluid from the middle ear to the nasopharynx, and regulation of pressure in the middle ear to equilibrate with the outside environment.

Proper eustachian tube function is dependent upon the function of the tensor veli palatini muscle - the only active opener of the eustachian tube which gets its neural innervation from the mandibular branch of the trigeminal nerve. The trigeminal nerve fibers unite with portions of the superior cervical ganglion located between the C1 and C4 nerve roots with the nucleus of the spinal trigeminal tract extending into the upper cervical region. Proper functioning of the mandibular branch is therefore dependent upon the proper movement and alignment of the occiput and the first cervical vertebrae.

Eustachian tube function can also be mechanically impaired by hypertrophy of the cervical lymphatic tissue and consequently blocking the eustachian tube. The eustachian tubes in infants are nearly horizontal and gradually increase to a 45 degree angle, increasing the space between the ostium and the lymphatic tissue by the time the child reaches the age of seven. Therefore when the lymphatic tissue hypertrophies in a younger patient they have a higher risk of eustachian tube blockage.

Clinical theory suggests that immune function is hindered by many factors commonly associated with vertebral subluxation that involve the lymphatic tissue. Restoring the spine, specifically occiput and upper cervical segments, to their proper alignment and motion normalizes both eustachian tube and immune system function reversing the muscular and viscero-somatic impairments.

Although chiropractors have anecdotally claimed success in treating otitis media for nearly 100 years, as well as many non-musculoskeletal, non-malignant conditions, more evidence is needed to support these claims. Most of the research published showing the success of chiropractic as an intervention for many pediatric health conditions are being presented as descriptive case studies and clinical experience, with very few observational and experimental studies.

This case study discusses the chiropractic management of a sixteen month old boy with recurrent otitis media, brought to the office seeking care in order to avoid the insertion of...
Otitis Media

parents began using herbal ear drops, reporting that they
patient has had four medically diagnosed bilateral ear
bed head first. He also was brought to the emergency room at
breastfed for the first four months and was on formula,
birthing process. At the time of birth the patient weighed 7lbs.
per night of good sleep.

Patient History

The patient is a 19-month old male Caucasian who presented
to the chiropractic clinic with his mother at the age of 16-
months with the primary complaint of recurrent ear infections.
The mother brought the child to the clinic with hopes to avoid tympanostomy tubes.

The mother was pregnant with the patient forty weeks and six
days. The birth was planned to be vaginal but due to the
umbilical cord being wrapped around the patient’s neck and
the slow progression of labor, the mother had a caesarean
section; labor lasting approximately five hours. An epidural
and Pitocin were administered to the mother during the
birthing process. At the time of birth the patient weighed 7lbs.
3oz and was 20.5 inches in length. The patient was born with
a collapsed right lung and did not breathe for the first seven
minutes after delivery. The patient had APGAR scores of 3, 5, and 7.

His entire body was severely swollen at birth. The patient
tested positive for Group B Streptococcus. He was diagnosed
with pneumonia, Meconium Aspiration Syndrome, anemia,
and meningitis. The diagnosis of meningitis was made
without a spinal tap and fluid analysis. The patient was
admitted into the Neonatal Intensive Care Unit (NICU),
treated for the above conditions, and remained there for seventeen
days.

The mother was not on any medications during her pregnancy
nor did she smoke or consume alcohol. The patient was breastfed for the first four months and was on formula,
Enfamil, for eight months. He was introduced to solid foods at
the age of six months and cow’s milk at the age of twelve
months. No food or juice allergies or intolerances were
reported. It was reported that the patient sleeps twelve hours
per night of good sleep.

The mother reported the patient has a history of a fall from a
bed head first. He also was brought to the emergency room at
the age of 12 months due to having a high fever. He has no
history of prior surgeries or childhood diseases. The patient
has history of vaccination and is up to date on all scheduled
vaccinations.

The patient’s ear infections began at the age of fourteen
months. Between the ages of fourteen and sixteen months, the
patient has had four medically diagnosed bilateral ear
infections, subsequently treated with antibiotics. The mother
reports that the patient has had six doses of antibiotics in his
life, four doses within the past six months. At 16-months, the
parents began using herbal ear drops, reporting that they
noticed improvements in his symptoms after usage.

Chiropractic Examination

At the age of 16-months, the patient presented with medically
diagnosed, bilateral ear infections, the right being more severe.
Pus was present bilaterally. After a thorough pediatric chiropractic examination, utilizing a paraspinal
thermal exam and vertebral segmental static and motion palpation, a right occipital (C0) and first thoracic level (T1)
subluxation were identified.

The paraspinal thermal exam was performed using the Insight
Millennium Subluxation Station. The purpose of the thermal
scan is to assess the function of the sympathetic nervous
system through analysis of paraspinal thermal temperature
differentials. The thermal readings should be symmetrical
when comparing the left side of the body to the right at similar
levels of the spine. When a scan is performed the values obtained are then compared to a normative database. The upper limit of normal
asymmetry has been considered to be less than one degree Celsius but it has been noted that due to the variability of
vasomotor responses in different underlying pathologies, in
certain clinical cases a temperature asymmetry of less than one
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certain clinical cases a temperature asymmetry of less than one
degree Celsius may be significant.10

The temperature differences are then quantified into standard
deviations revealing mild (one to two standard deviations),
moderate (two to three standard deviations), and severe (three
to four standard deviations) asymmetry. Asymmetry and
deviations from normal reveal possible dysautonomia.16

The patient’s segmental thermal scan did not reveal
temperature asymmetry large enough to be placed into mild,
moderate, or severe but did show asymmetry of 0.6 degrees
Celsius at C1 on the left, 0.3 degrees Celsius on the right, 0.5
degrees Celsius at T5 on the left, 0.5 degrees Celsius at T12
on the left, and 0.6 degrees Celsius at S1 on the left (See
Figure 1).

Intervention

The patient received an adjustment at the first visit following
the history and physical exam. Subluxations were identified by
hypomobility at occiput (C0) on the right and the first thoracic
(T1) vertebrae. The occiput was adjusted using the Activator
instrument. The Activator provides a controlled high speed,
low amplitude adjustive thrust to a specific are of the spine.17
The first thoracic (T1) vertebrae was adjusted using sustained
contact. Sustained contact adjustment consists of a specific
contact with a constant low pressure applied to the subluxated
level in the line of correction until the vertebrae returns to its
proper position and/or motion is restored.

The patient returned to the office the next day for his second
visit and report of findings. A treatment plan was established
of three days per week with an assessment every visit.
Subluxations were identified by hypomobility at occiput (C0)
on the right, first cervical (C1) vertebrae, and third thoracic
(T3) vertebrae. The occiput (C0) on the right and the first
cervical (C1) vertebrae were adjusted using the Activator.

The third thoracic (T3) was adjusted using sustained contact.
Cranial adjustments were also utilized at this appointment.
The cranial adjustment method developed by Phillips is a non-
force indirect method of restoring balance of membranous
tension within the cranial system with its main goal to restore

Otitis Media

J. Pediatric, Maternal & Family Health - May 28, 2013 41
cerebrospinal fluid flow as well as improving function of the nervous system.\textsuperscript{18}

Two days later the patient came in for his third visit. The chiropractor used the otoscope to examine the patient’s ears, revealing fluid in the right ear and the left ear to be clear. Subluxations identified by hypomobility were present at occiput (C0), first cervical (C1), and third thoracic (T3) vertebrae.

During the second week of care, subluxations were identified and adjustments were made at C0, C1, and C2. Cranial adjustments were also utilized. Light pressure was applied to the frontal zone to stimulate release of sinus pressure. Soft tissue effleurage was applied to bilateral SCM’s to promote surrounding lymphatic drainage as well as to promote normalization of the tone of the muscles. The care plan was modified to two visits per week at this visit to begin with the third week of care.

The first visit of the third week of care began with a re-examination of the patient, including a rolling paraspinal thermal scan and otoscope examination. The paraspinal thermal exam revealed mild asymmetries at C2 on the left, T8 on the left, and L4 on the right. Moderate asymmetry was noted at C3 on the left.

Slight asymmetries at temperature deviations less than those categorized into mild, moderate, and severe also existed at each vertebral level of the spine (See Figure 2). When the ear was examined, the right and left ear were clear, with slight fluid in the right ear. During the third week of care, adjustments were made at C1, T3, T5, and sacrum. The patients care plan was then decreased to one time per week.

The fourth through seventh week of care, adjustments were made at C1, C2, third cervical (C3) vertebrae, T3, the fifth lumbar (L5) vertebrae, sacrum. Cranial adjustments were also utilized. In the seventh week of care, the care plan was modified to one visit every two weeks. The ninth and tenth week of care, adjustments were made at C1, T3, sixth thoracic (T6) vertebrae, ninth thoracic (T9) vertebrae, and sacrum.

Light pressure was applied to the frontal zone to stimulate the release of the sinuses. During the eleventh week of care the right ear revealed slight fluid. Adjustments were made at C1, T9, and L5. Soft tissue effleurage was applied to sternocleidomastoid bilaterally. It was recommended that the patient begin to take probiotics, to build up normal flora in the intestines to boost the immune system, as well as apply Traumeel ear drops, a homeopathic remedy to minimize ear inflammation.

Outcome

After the patient had been under chiropractic care for the first week, the mother reported that the child had decreased symptomatology associated with the bilateral ear infections. He continued to show improvements in symptoms associated with ear infections through the fourth week of care. During the fourth week of care, the patient had an appointment with the pediatrician, revealing that he no longer had bilateral ear infections and that bilateral ears were clear of fluid. The patient continued to be symptom free from the fourth week through the tenth week of care.

At presentation to the office in the eleventh week of care the patient was pulling on his right ear. The father stated that he had an 18-month scheduled visit to the pediatrician the day before the office visit and the patient received his scheduled vaccinations. The patient underwent his usual analysis and adjustment.

The patient is currently still under chiropractic care and has not had any medically diagnosed ear infections since the third week of being under chiropractic care. The patient has not been on any antibiotics since being under chiropractic care.

Discussion

Due to the pathogenesis being linked to abnormal function of the eustachian tube combined with bacterial/viral infection, and other predisposing factors, the chiropractic treatment focuses on normalizing the function of the spine, eustachian tube and immune system.\textsuperscript{3,5,11} Because of the direct relationship of the eustachian tube, tensor veli palatini, and superior cervical ganglion a misalignment in the upper cervical region, specifically C1 through C4, with subsequent compressive forces and irritation to the neural tissue, affects all of the above components, resulting in altered tone of the tensor veli palatini and inability to dilate the eustachian tube.\textsuperscript{3,5,6}

When proper alignment and motion of the spine are achieved through chiropractic care, the tensor veli palatini regains proper nerve supply, leading to normal functioning of the eustachian tube. Proper functioning of the eustachian tube allows for natural drainage of fluid from the middle ear, protection of the middle ear from nasopharyngeal fluid, and regulation of middle ear pressure.\textsuperscript{13}

The chiropractic management of the patient included adjustments of the cranium, including the occiput, as well as C1. Subluxations of these areas have been linked to the pathogenesis of otitis media.\textsuperscript{3,5,10} Therefore, it can be hypothesized that the correction of these subluxations may be associated with the normalization of eustachian tube function, allowing for natural drainage and pressure regulation of the inner ear, resulting in decreased symptomatology of the otitis media.

With the patient still under chiropractic care and maintaining proper spinal alignment, it can also be hypothesized that his lack of recurrence of otitis media may be attributed to the maintenance of normal eustachian tube function. Because the pathogenesis is multifactorial, it is difficult to definitively make these statements.

An important aspect of the patient’s history is the traumatic birthing process, resulting in a C-section delivery. Birth trauma, injuries obtained from compression, distraction, and/or torsion forces, can include soft tissue, nervous system, and bony injuries.\textsuperscript{18} During occurrences of birth malposition or c-section, normal cranial molding, which is essential for the proper juxtaposition of cranial bones, leads to craniofacial...
defects. Torticollis, plagiocephaly, craniosynostosis, and facial asymmetry, are specific examples of these types of birth injuries. With improper juxtaposition of the cranial bones and vertebrae it can potentially change the pressure gradient within the ear mechanism leading to increased incidence of otitis media.

Another important aspect of the patient’s history that may be linked to an increased susceptibility of otitis media is that he was only breastfed for four months. Breast milk has a significant number of immunological components that may play a role in the protection against otitis media. It has been shown that the incidence of otitis media is inversely proportional to breastfeeding duration.

In a comparison of breastfed and non-breast fed children, breastfeeding contributes to the increased level of lactobacilli, a normal intestinal bacterium. The human intestinal tissue has a large number of immune host cells and the gut lumen has a wide variety of bacteria necessary for a proper functioning immune system. There are many dramatic changes in gut microbial composition early in life, including at birth and during weaning due to changes in nutritional and physiological conditions.

In a study performed by West, research was focused on the effects of probiotics during weaning on infections and antibody responses to diphtheria, tetanus, and Hib vaccines. The study found that the use of probiotics during weaning did not prevent infections. They did find that the use of probiotics during the course of vaccination to diphtheria, tetanus, and Hib increased the capacity to raise the immune response to protein antigens, having more marked effects on patients who were breastfed less than six months.

This study correlates well with the rationale of initiating the use of probiotics in the patient’s diet being that the patient was only breastfed for four months as well as having up to date vaccinations. Implementation of probiotics therefore could help to increase his immune response and further help to prevent the recurrence of otitis media and other infections.

In a retrospective longitudinal cohort study conducted by McDonald et al., they analyzed the administering of the DPT immunization and its correlation with asthma. They found that children who delayed their first dose of the DPT vaccination for two months had the incidence of asthma reduced to half. In order to have a proper immune response, the body maintains a balance between TH1 and TH2 immune response.

When a child is born TH2 immune response is higher than TH1 until the infant is exposed to microbes. Many early childhood vaccinations are considered promoters of TH2-type immune responses directly, or indirectly by decreasing microbial exposure; both effects shifting the balance of the TH1 and TH2 immunity (West). Therefore, the earlier the vaccinations are administered may lead to a more dramatic imbalance to the system.

This is the key explanation to why delaying vaccinations can be linked to decrease rate of asthma. Asthma, like otitis media, has a common epidemiological risk factor of allergy. Therefore there may be a correlation between vaccinations and otitis media as well. In the conclusion of this paper they stated that more research investigating the link between vaccinations and allergic disease is vital to gain an understanding of their relationship.

The patient in our case proved to show improvement and eventual resolution of his otitis media and ear pain, but did have recurrence after he received a scheduled vaccination. Due to the research that shows vaccinations affect the balance of TH1 and TH2 immune response, this may leave the child in a state of less than optimal immune function. According to Fallon, one of the epidemiological factors associated with increased risk of otitis media is an immuno-compromised state.

A pilot study of 332 children was conducted in order to analyze the role of subluxation and its role in the pathophysiology of otitis media and to determine if chiropractic adjustments are an effective treatment for otitis media. History of the children revealed that most children were between the ages of 6-12 months, had 3-5 bouts of OM, have taken 6-8 rounds of antibiotics, and were born by C-section. They also found that 145 of the children had never been breastfed at all, and most of those children consumed a soy based formula.

Treatment included each child getting a series of spinal adjustments according to their clinical findings. An occipital adjustment was performed at least once on all the children, most commonly on the affected side, and soft tissue effleurage of the SCM’s bilaterally. Overall the average number of adjustments per child was 4.09, the average number of days for the otoscopic exam to return to normal was 7.65, and the number of days it took for the tympanographic exam to return to normal was 9.26.

This study also introduced the Vertebral-Cranial Subluxation Complex (VSCS) model and the importance of evaluating the cranium when assessing subluxation in children. The VSCS model includes five parameters (mechanical, myologic, lymphatic, inflammatory, neurologic) which are discussed in their relation to the pathogenesis of otitis media. Conclusion of the study revealed that there was a strong correlation between the chiropractic adjustment, most importantly the occipital adjustment and the resolution of otitis media.

A survey was conducted in order to establish if a consensus existed with respect to the chiropractic management of otitis media and asthma. The result of the chiropractic treatment of otitis media revealed a consensus of spinal adjusting of the atlas and axis, cranial adjustments of the occiput, temporal bone, ethmoid, and sphenoid., TMJ adjustments, manual therapy for lymphatic drainage, as well as evaluation of the child’s eating habits and removal of dairy/wheat from the diet.

In a case study presented by Cuthbert and Rosner, a six year old presented with recurrent AOM who had been treated with twenty five rounds of antibiotics since the patient was the age of four. She underwent chiropractic treatment, utilizing applied kinesiology for the diagnosis and correction of dysfunction. The care focused on soft tissue, upper cervical, and cranial dysfunction and resulted in the restoration of
normal eustachian tube function and reversal of her muscular and viscerosomatic impairments without recurrence of ear infections.9

In a case study by Apfelblat, she discusses the chiropractic management a nine month old who presented with acute bilateral ear infections, along with a history of six medically diagnosed ear infections in the previous three months.22

Her symptomatology included a runny nose, decreased cervical motion, and fussiness. Through static and motion palpation, subluxations were found at C1 and T3 and were adjusted using a low force sustained contact. Muscle spasm of bilateral SCM was also noted. The treatment resulted in decreased symptomatology and muscle spasms of bilateral SCM’s.

In a case study by Stone-McCoy, Boutlier, and Black, a nine month old male with a history of C-section, recurrent ear infections beginning at four months of age after four months of vaccinations, and slight torticollis presented in order to avoid tympanostomy tube insertion.10 Subluxations were identified by spasm, hypomobility and end point tenderness at C2, C1, T1, L5, and sacrum. Adjustments were made using the Infant Toggle Headpiece and Activator.

Cranial and sinus work was also administered. By the seventh week of care the patient had a visit to his ENT, reporting that his ears were clear and there was no need for tympanostomy tubal insertion.

In a case study by Marino and Butt, a twenty-one month old girl presented with a history of recurrent otitis media and respiratory syncytial virus.23 She has a history of antibiotic use as well as the use of a bronchodilator in the form of a nebulizer. As an infant, she was not breastfed.

Subluxations were identified at C1 and the pelvis utilizing posture, static palpation, motion palpation, leg length symmetry, and location of sites sensitive to palpation. The chiropractor located and adjusted twenty five pelvic and twenty eight atlas subluxations with high velocity, low force adjustments. After the first month of care, the patient discontinued use of oral antibiotics and by the end of three months discontinued use of her nebulizer. The patient remained symptom free and is still under chiropractic care.

In a case study presented by Fedorchuk and Cohen, an eight year old female presented to the office with a three year history of debilitating otitis media, bilateral suboccipital headaches, and sinus pressure.21 The patient had a history of birth trauma, including the umbilical cord being wrapped around her neck, did not breathe for the first two minutes of life, tympanectomy surgeries, and several rounds of antibiotics.

The chiropractic management included twenty nine visits over a course of three months, consisting of trigger point therapy, Activator, and mirror image adjustments provided with Diversified technique. After one month of care, the headaches, sinus, and ear pain had resolved. According to her pediatrician her ear and sinus infections resolved as well. A follow up 12 months later revealed that the patient remained symptom free of all prior complaints.

In a case report presented by Saunders, a 3½ year old male sought chiropractic care after having an eighteen month history of ear infections, including two or three recurrences.8 The patient was treated with multiple bouts of antibiotics without resolution of the ear infections. At the time of presentation, the patient had discharge coming from both ears and also had a hearing deficit.

The patient has a history of a breech birth and was born with difficulty breathing resulting in being admitted into NICU for 12 days. The patient was not breastfed. Chiropractic management included adjustments of C1, C2, C3, and middle thoracic vertebral segments utilizing diversified technique and activator. SCM hypertonicity was also noted. After the first adjustments the parents reported immediate improvement and the patient no longer had discharge from his ears. Six weeks after the initial treatment the symptomomatic improvement was still maintained.

Three months after the initial treatment a hearing test revealed objective improvement in hearing. The patient did continue to have accumulation of ceruminous fluid that was managed with oil drops.

In a case study presented by Sonners, two sisters, 2 year old and 1 year old, presented to the chiropractic clinic suffering from chronic ear infections.24 Both children have a history of two or three rounds of antibiotics, regular usage of inhalers, and allergy medicine as well as reported being sick every week. They also reported that they are sick every week. The girls were seen once a week for nine weeks and then every other week for eight weeks.

Adjustments were made at multiple levels of the spine, C1 being the only common segmental level, utilizing SOT, toggle recoil, and Logan basic. At the end of the first nine weeks of care the children had not had any ear infections or colds. After seventeen weeks of care the patient’s conditions completely resolved.

A pilot study was conducted to assess the feasibility of a full scale randomized trial, evaluating the efficacy of chiropractic spinal adjustments in children with chronic otitis media with effusion.2 Conclusion of this study found that a randomized clinical trial in large scale is feasible and would be greatly enhanced by medical collaboration.

This study is significant because most of the research published on chiropractic care and otitis media is of clinical experience in the form of case studies, lacking high levels of scientific evidence.7,14 With the many side effects of repeated antibiotic therapy and risks associated with insertion of tympanostomy tubes, another important conclusion from this study found that there were no serious side effects as a result of the placebo or active chiropractic treatments.

Conclusion

The purpose of this case study was to present the chiropractic management of a patient with recurrent otitis media. The chiropractic adjustments appeared to be related to the
improvement of the patient’s health status. The patient is currently still under chiropractic care and still has yet to have another recurrence of medically diagnosed otitis media. The patient did have one recurrence of ear pain symptoms that occurred the day after a visit to the medical doctor for his scheduled vaccinations.

The symptoms were milder compared to when the patient first presented to the office, therefore chiropractic care may be associated with an overall improvement in immune function. With the increase in antibiotic resistance, the traditional medical treatment for otitis media with antibiotics is becoming less effective, therefore children are now being put on several rounds of antibiotic therapy.

Furthermore, there are risks and side effects associated with the traditional medical approach of antibiotic therapy and insertion of tympanostomy tubes. Chiropractic care may be a more natural, effective approach in the management of otitis media offering a low risk treatment.

Due to most of the research on chiropractic management and treatment of otitis media being in the form of descriptive case studies it is imperative that more research of higher scientific evidence with larger study groups be done to evaluate the efficacy of chiropractic management of otitis media. Sawyer et al, found that it is feasible to conduct a full scale randomized clinical trial that investigates the efficacy of chiropractic adjustments for children with chronic otitis media with effusion. Furthermore, more research should be done to determine which subsets of patients with otitis media can be helped by chiropractic care.

References

Figure 1 – Initial Thermal

Figure 2 – Thermal Scan-- Reassessment